

A TRANSPARENT AQUEOUS BASE SOLUBLE POLYMER SYSTEM

FOR USE IN 157 NM RESIST APPLICATIONS

ABSTRACT OF THE DISCLOSURE

Fluorocarbonol- and/or fluoroacid-functionalized silsesquioxane polymers and copolymers are provided. The polymers are substantially transparent to ultraviolet radiation (UV), i.e., radiation of a wavelength less than 365 nm and are also substantially transparent to deep ultraviolet radiation (DUV), i.e., radiation of a wavelength less than 250 nm, including 157 nm, 193 nm and 248 nm radiation, and are thus useful in single and bilayer, positive and negative, lithographic photoresist compositions, providing improved sensitivity and resolution. A process for using the composition to generate resist images on a substrate is also provided, i.e., in the manufacture of integrated circuits or the like.